

## ABSTRACT

Home yard as a medium for planting various ornamental plants these days are common in society. However, along with the land area reduction, particularly in urban areas, it could be one of the issues that need to be solved. The designed *smart indoor* verticulture system is a system that combines vertical planting techniques (verticulture) that require only a small amount of land with control system automation technology that allows people to treat the ornamental plant from a relatively far distance. Thus, with this system, the treatment of ornamental plant can be done even in indoors.

In assembling this final project, it will be designed a smart indoor verticulture mobile application that acts as a liaison between users with smart indoor verticulture system that has been built. This Android-based mobile app can perform monitoring functions such as displaying information to the user about the environmental conditions around the ornamental plants, displaying the log history of ornamental plant care that has been taken or to control also to set the regular treatment of ornamental plants. In order to perform these functions, it is also required a web-service design that acts as a liaison between mobile applications with the microcontroller devices as the command executor so that users can control and monitor the treatment of ornamental plants from a relatively far distance.

**Keywords** : vertikultur, mobile applications, control and monitoring, web-service.